

AERONAUTICAL CHARTING FORUM
Instrument Procedures Group
Meeting 15-01 – April 28, 2015

RECOMMENDATION DOCUMENT

FAA Control # 15-01-321

Subject: Coding of Missed Approach for ILS 31L and ILS 31R at KJFK

Background/Discussion: It was recently discovered by an airline crew that the missed approach for the ILS 31L and ILS 31R at KJFK does not appear to be coded correctly in the FMS database. The coding and text on the approach chart do not match and is causing confusion in the cockpit. The FMS coding indicates these are “At or Above” altitudes, however the text indicates the intent of these to be coded as “At” altitudes. It seems that the “at” altitude is indeed providing procedural separation the way it is described. Investigation with Aeronautical Information Services (AIS) and Jeppesen revealed that the text description indicates a level off, but the actual coding indicates “at/above or minimum.” FAA Form 8260-3 states that “Altitudes are minimum altitudes unless otherwise indicated.” However, when it comes to the text used to describe missed approach instructions, Order 8260.19F, paragraph 8-6-7d Note, states:

Note: To standardize and clarify altitudes and the meaning of “and” or “then” when used as connecting words between segments of the missed approach, “and” means a continuous climb to the stated altitude; “then” means the altitude condition must be reached at the prior to the connecting word “then”, and either is maintained through the remaining missed approach or a second altitude will be stated.

Recommendations: Unlike RNAV procedures that are accompanied with ARINC coding information with the procedure, non-RNAV procedures do not. Recommend that database coding authorities become familiar with and comply with the use of the terms (i.e., “and” vs. “then”) used when coding conventional instrument procedures as defined in Order 8260.19F, paragraph 8-6-7d Note.

Comments:

Submitted by: Lev Prichard

Organization: Allied Pilots Association

Phone: 817-302-2150

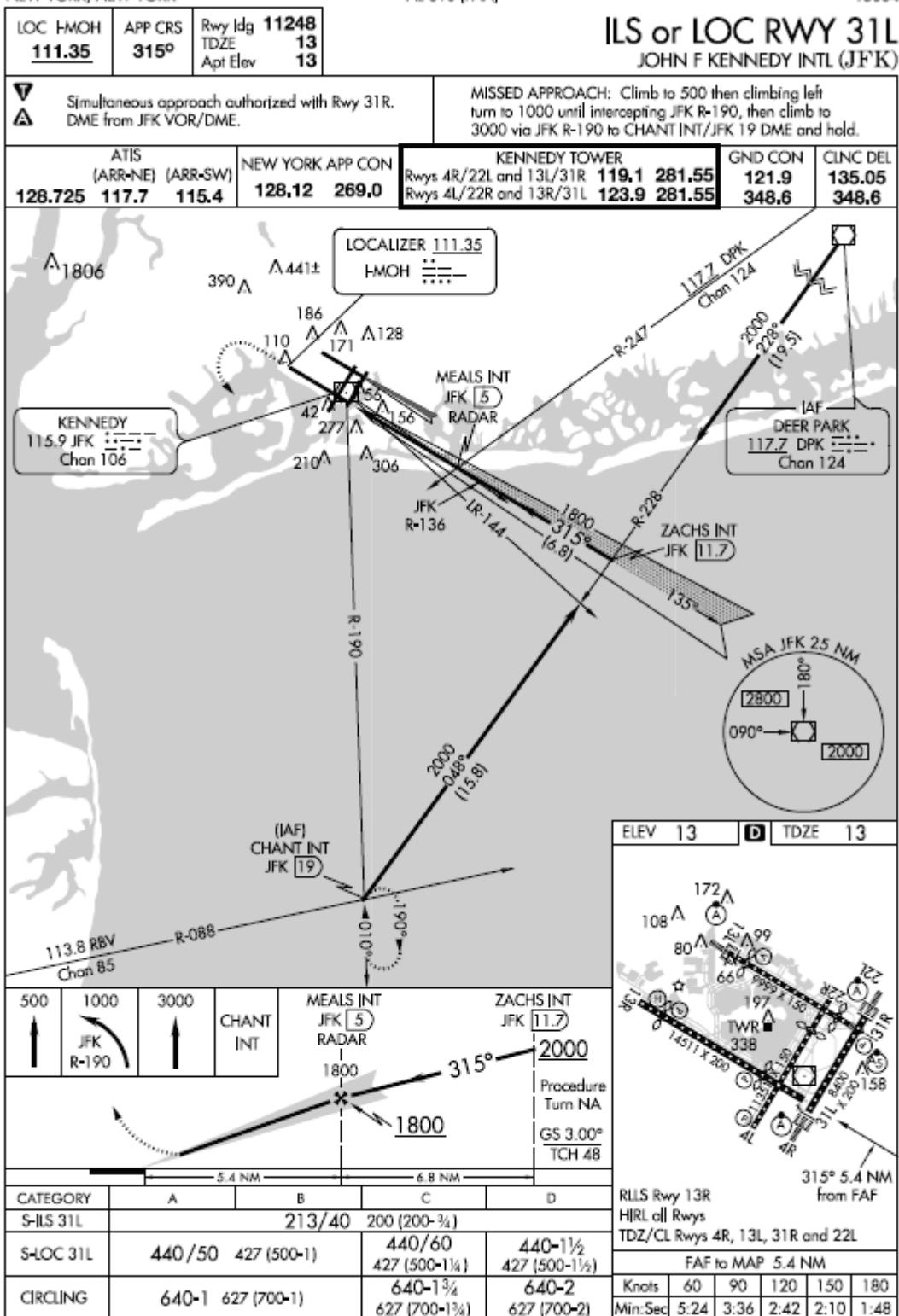
E-mail: lprichard@alliedpilots.org

Date: 8APR15

NEW YORK, NEW YORK

AI-610 (FAA)

15064



NEW YORK, NEW YORK

Amdt 10D 18SEP14

40°38'N-73°47'W

JOHN F KENNEDY INTL (JFK)

ILS or LOC RWY 31L

KJFK/JFK
KENNEDY INTL

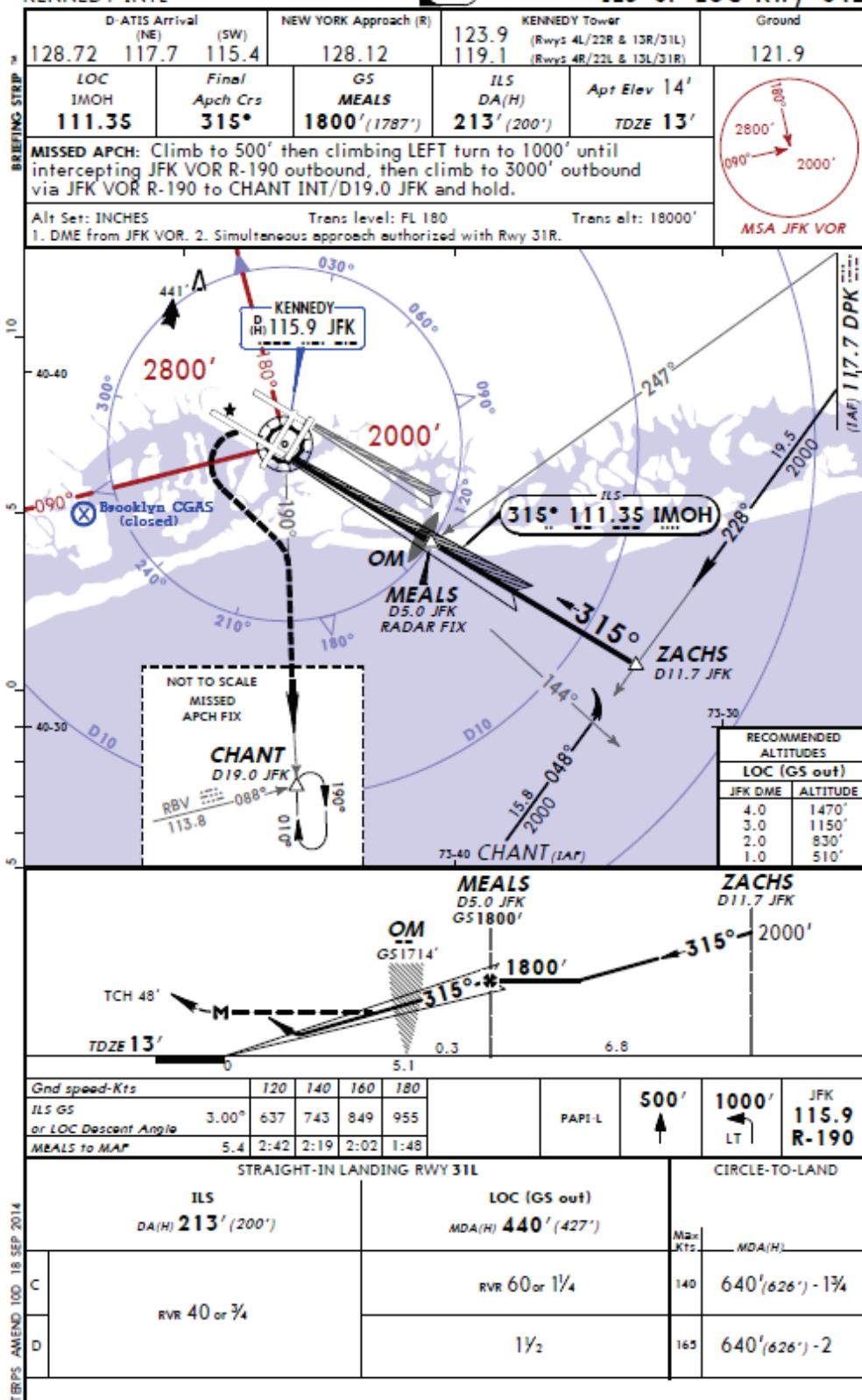


JEPPESSEN

26 SEP 14

21-6

NEW YORK, NY
ILS or LOC Rwy 31L



CHANGES: Note.

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NEW YORK, NEW YORK

AL-610 (FAA)

15064

LOC/DME I-RTH APP CRS **Rwy Idg 8482**
111.5 **315°** TDZE **13**
 Chan 52 Apt Elev **14**

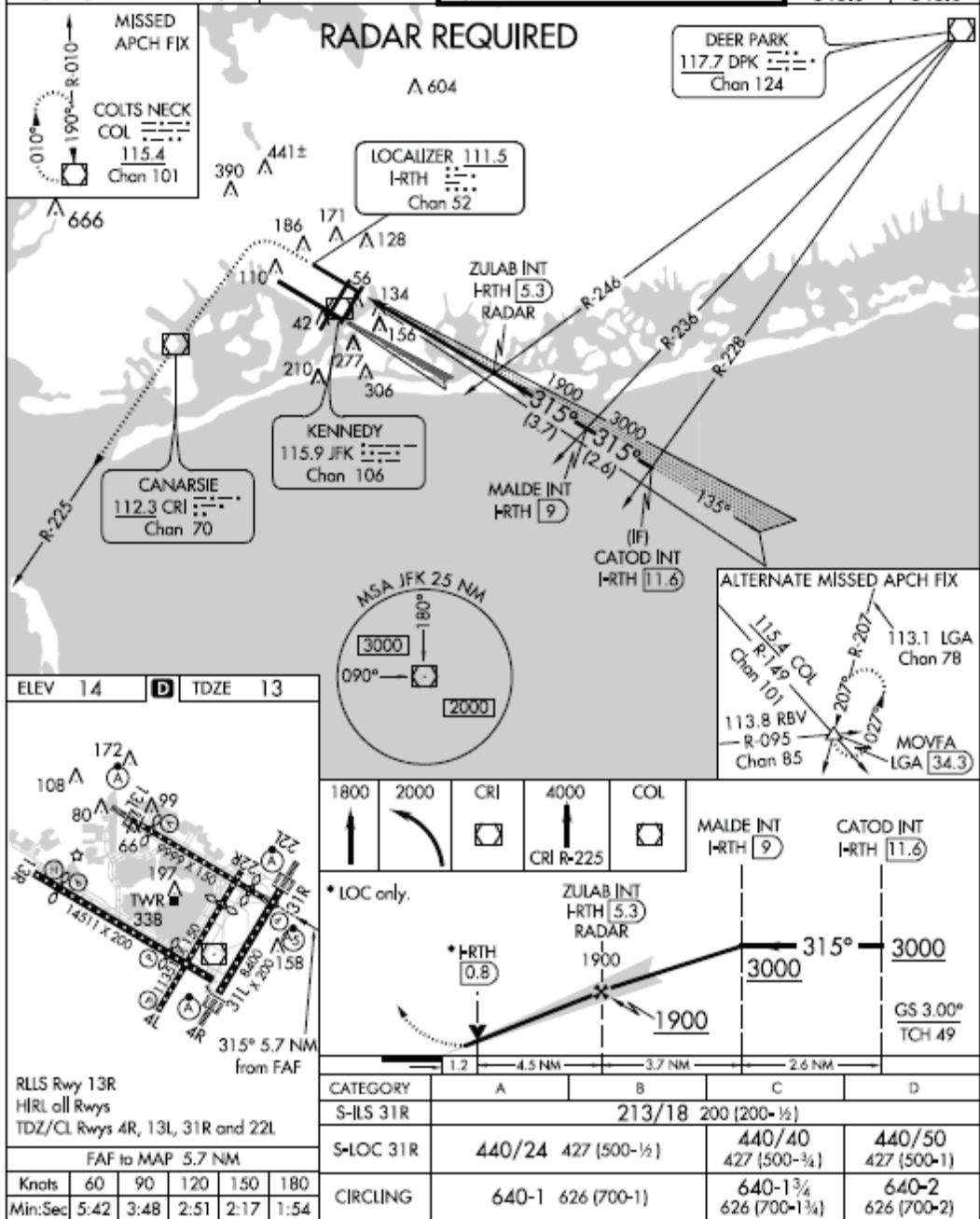
ILS or LOC RWY 31R
JOHN F KENNEDY INTL (JFK)

 Simultaneous approach authorized with Rwy 31L

MALSR

MISSING APPROACH: Climb to 1800 then climbing left turn to 2000 direct CRI VOR/DME then climb to 4000 via CRI VOR/DME R-225 to COL VOR/DME and hold.

ATIS [ARR+NE] (ARR-SW)		NEW YORK APP CON	KENNEDY TOWER	GND CON	CINC DEL
128.725	117.7	115.4	Rwys 4R/22L and 13L/31R 119.1 281.55 Rwys 4L/22R and 13R/31L 123.9 281.55	121.9	135.05 348.6



NEW YORK, NEW YORK

Amst 15D 18SEP14

Audit TSD T83EFT4

40828/61 3284724

JOHN F KENNEDY INTL (JFK)
ILS or LOC RWY 31R

KJFK / JFK
KENNEDY INTL



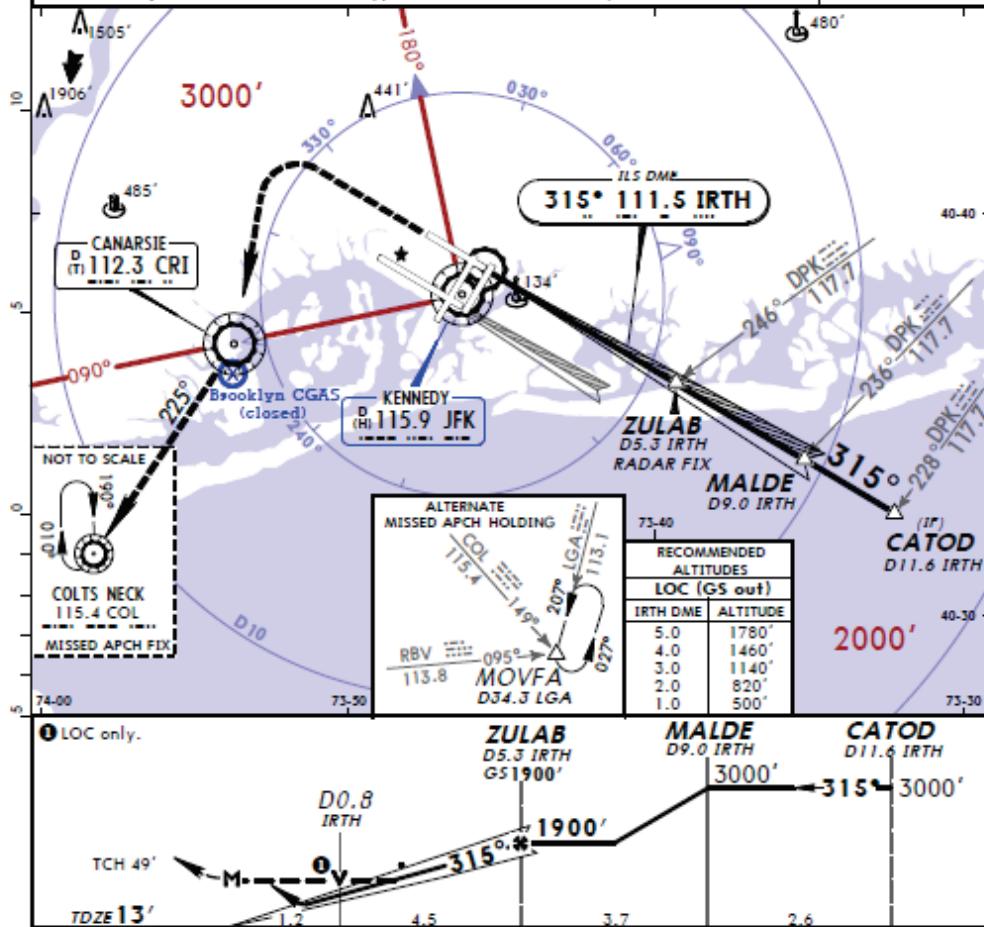
JEPPESSEN
26 SEP 14 [21-7]

NEW YORK, NY

D-ATIS Arrival (NE)		NEW YORK Approach (R)		KENNEDY Tower (Rwy 4R/22L & 13L/31R) (Rwy 4L/22R & 13R/31L)		Ground
LOC IRTH	Final Apch Crs	GS ZULAB	ILS DA(H)	Apt Elev 14' TDZE 13'		
111.5	315°	1900' (1887')	213' (200')			
					3000'	3000'

BRIEF MISSED APCH: Climb to 1800' then climbing LEFT turn to 2000' direct CRI VOR then climb to 4000' outbound via CRI VOR R-225 to COL VOR and hold, or as directed by ATC.

Alt Set: INCHES **Trans level: FL 180** **Trans alt: 18000'**
1. Radar required. 2. Simultaneous approach authorized with Rwy 31L.



Straight In Lancing Bay 118 Circle To Land

ILS STRAIGHT-IN LANDING RWY 5/23 LOC (GS out) CIRCLE TO LAND

PA(HI) 213° (200°) **MRA(HI) 440° (427°)**

FULL TDZ or CL out RAIL or ALS out RAIL out ALS out Max Kts. MDA (H)

RVR 18 RVR 24 RVR 40 RVR 40 or $\frac{3}{4}$ RVR 60 or $\frac{1}{4}$ 140 640' (626') - $\frac{1}{4}$

RND 10 RVR 2-4 or $\frac{1}{2}$ RVR 40 or $\frac{3}{4}$

CHANGES: Notes modified

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INITIAL DISCUSSION – MEETING 15-01: Lev Prichard, Allied Pilots Association, briefed on an issue encountered by a crew where the missed approach verbiage does not match coding in the Flight Management System (FMS). The verbiage indicates an intermediate level off in the missed approach (use of word “then” in instructions) whereas the coding shows an at-or-above altitude crossing at all points. Lev took this issue to Brad Rush, AJV-54, who looked at it and said there were complications on the 8260-Forms that limited them to coding this way. Gary Fiske, AJV-82, inquired if anyone had asked the New York TRACON of their expectations of what the pilot will do in the event of a missed approach, and Lev said “no” since the procedure is spelled out on the approach plate. Rich Boll, NBAA, added to the discussion with a similar experience with JFK approaches on a different runway last year and when he asked ATC, they indicated they were “at” altitudes, which also did not match coding. Ted Thompson, Jeppesen, did research at Jeppesen on the history on these JFK approaches, and determined there was a back-and-forth change on how these altitudes would be coded. He inquired to Brad who pointed out the 8260-series Forms “boiler plate” guidance that says all altitudes are at-or-above unless otherwise designated. Ted said either the wording has to change to use “at,” which also has issues (rapid climb rate not insuring level off), or change to at-or-below (as done in Seattle) since the FMS equipment will change the climb profile (soften) and solve problem. Brad had also reminded Ted that flight procedures are primarily designed for obstacle clearance and not ATC separation. Ted recommends the at-or-below method. Lev said the approaches in question need to be fixed ASAP, since this is a safety of flight issue and the long term solution needs to be addressed. Gary McMullin, Southwest Airlines, advised they have seen many of these before and when taken back to the FPT, all have been corrected with at-or-below altitudes. Lev displayed Order 8260.19F, paragraph 8-6-7d note, on meaning of word “then.” Tom said this is written for procedure designers when developing the missed approach text and added that designers use TERPs to evaluate the missed approach segment (40:1 surface) but when there is a level off; the designer must switch to use a level surface evaluation for ROC, which was a major issue in Seattle. Rich said the issue is still the coding not matching what is on the chart. A group discussion ensued with several more examples and discussion of ARINC 424 coding of conventional approaches. Lev restated he is asking the group for two things: Fix the identified issue at JFK; and for changes to ensure this scenario does not happen again. Ted stated his answer is make altitudes at-or-below, and Tom added that would require a waiver to establish criteria to support as was done in Seattle. The existing criteria is at-or-above, and there is policy to distinguish what the language in the missed approach means and how that should (technically) be coded; however, he cannot control how the conventional procedure is coded by database providers. Information is provided about coding RNAV procedures on the FAA Form 8260-10. Rich said his example was an RNAV procedure and data on the Form 8260-10 form did not match the text. Tom said this is an AIS problem and Brad should have corrected this; Rich advised no. Gary McMullin asked if there was documentation on coding conventional missed approaches (answer no) and could that be a first step. Tom answered FAA does not do coding on conventional procedures, adding that originally the FAA did not want to be involved in coding RNAV either. It is the responsibility of each manufacturer to insure their navigation equipment will comply with the instrument procedure lateral and vertical requirements. A group discussion followed on coding issues including Jeppesen history, OEM issues, climbing and level off issues with and without coding, etc. Tom added there are numerous iterations of missed approach procedures and procedure designers need flexibility. The FAA relies on data base coders to interpret what is needed to support the missed approach and that is how the ARINC record is formulated. The question now becomes

how much more detail is required? Once the procedure is developed, it goes to flight check for flyability. If it does not pass flight check, they send it back to AIS for revision. Rick Dunham, AFS-420, specifically asked Lev what they are looking for since changes will not happen right away; i.e., issue a NOTAM? Lev said coding is out there and it does not match the procedure. Valerie Watson, AJV-553, stated that the FAA codes ILS procedures, but a Form 8260-10 is not provided as part of a procedure package for database developers outside the FAA. Tom inquired if there are any recommendations to change or improve guidance language to ensure that coding is done correctly.

Status: Rick took IOU for AFS-420 to take item back, review language, reach out to Lev and others, and see if there is an opportunity to clarify language (if needed) or determine if this is an AIS database issue. Tom added issue will be directed to US-IFPP due to impact on surfaces with at-or-below altitudes when executing a missed approach. Rick added US-IFPP has a database group to consider these kinds of issues. **Item open: AFS-420 (US-IFPP)**

MEETING 15-02: John Bordy, AFS-420, briefed  that this situation is related to a hold down altitude on the missed approach. The issue was referred to the US-IFPP and a working group was formed to look at procedure design and coding. There have been two meetings so far, looking at missed approach design options, guidance in FAA Order 8260.19, and ensuring language is consistent with departures. There is an effort to ensure missed approach instructions are clear to pilots and controllers. The intent is to make it easy for the database coder to know what is desired by the procedure developer and to try and avoid complicated procedures as much as possible. The group is looking at "at or above," "at," and "at or below" altitudes on forms. The intent is to avoid early level-off segments. The next amendment of FAA Order 8260.3 will explicitly prohibit hold down altitudes in the missed approach segment. The hold down of 1000 ft at JFK is being worked now with an expected publication date of February 2016. One option being explored is a missed approach that is similar to the RNAV MA to the same runway, which does not require a hold down altitude. Tony Lawson, AJV-54, said there is no criteria to evaluate a missed approach with a hold down altitude. General discussion followed on fixing the missed approach at JFK and pilot workload during a missed approach. Rick Dunham, AFS-420, assured the forum this is being worked and discussed within several groups. Rich Boll, NBAA, said this issue has come up before with the RNAV 4L/4R MA's coding not matching. Ted Thompson, Jeppesen, said Jeppesen has changed coding multiple times on missed approaches for users, and continues to this day. Tom Schneider, AFS-420, recommended discussing the issue with the ARINC 424 group. John thinks the WG will have a recommendation by February 2016.

Status: Report results of sub-group meetings and US-IFPP decisions. **Item Open: AFS-420.**
